

TRIM siRNA (h): sc-106637

BACKGROUND

TRIM (T-cell receptor interacting molecule) is a novel transmembrane adaptor protein which associates and comodulates with the TCR-CD3 ζ complex in human T lymphocytes and T cell lines. TRIM is a type III transmembrane protein that contains an eight-amino acid extracellular domain and an intracellular domain that contains four potential phosphorylation sites and eight tyrosine residues, at least three of which may be involved in SH2-mediated interactions with other signaling proteins. The human TRIM gene maps to chromosome 3, which is a susceptibility locus for rheumatoid arthritis and is in proximity to the CD28, CD86, and CD80 genes, all of which encode T-cell costimulatory molecules. TRIM is expressed in T-cells and natural killer cells, but not in B cells or monocytic cells. In T-cells, TRIM localizes to the cell membrane and associates with CD3 ζ and CD3 ϵ .

REFERENCES

1. Bruyns, E., et al. 1998. T cell receptor (TCR) interacting molecule (TRIM), a novel disulfide-linked dimer associated with the TCR-CD3 ζ complex, recruits intracellular signaling proteins to the plasma membrane. *J. Exp. Med.* 188: 561-575.
2. Kersh, G.J., et al. 1998. High- and low-potency ligands with similar affinities for the TCR: the importance of kinetics in TCR signaling. *Immunity* 9: 817-826.
3. Hubener, C., et al. 2000. Genomic organization and chromosomal localization of the human gene encoding the T-cell receptor-interacting molecule (TRIM). *Immunogenetics* 51: 154-158.
4. Huynh, T., et al. 2001. Developmentally regulated expression of the transmembrane adaptor protein trim in fetal and adult T cells. *Scand. J. Immunol.* 54: 146-154.
5. Kirchgessner, H., et al. 2001. The transmembrane adaptor protein TRIM regulates T cell receptor (TCR) expression and TCR-mediated signaling via an association with the TCR ζ chain. *J. Exp. Med.* 193: 1269-1284.

CHROMOSOMAL LOCATION

Genetic locus: TRAT1 (human) mapping to 3q13.13.

PRODUCT

TRIM siRNA (h) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see TRIM shRNA Plasmid (h): sc-106637-SH and TRIM shRNA (h) Lentiviral Particles: sc-106637-V as alternate gene silencing products.

For independent verification of TRIM (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-106637A, sc-106637B and sc-106637C.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNases and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

TRIM siRNA (h) is recommended for the inhibition of TRIM expression in human cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 μ M in 66 μ l. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

GENE EXPRESSION MONITORING

TRIM (D-2): sc-365105 is recommended as a control antibody for monitoring of TRIM gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor TRIM gene expression knockdown using RT-PCR Primer: TRIM (h)-PR: sc-106637-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.